

## ABSTRACT

A radio frequency power supply structure and a plasma CVD device comprising the same are provided in which reflection of radio frequency power at a connecting portion where an RF cable connects to an electrode is reduced so that incidence of the radio frequency power into the electrode increases. In the radio frequency power supply structure for use in a device generating plasma by charging a plate-like electrode with a radio frequency power, the radio frequency power supply structure supplying the electrode with the radio frequency power from an RF cable, the RF cable is positioned on an extended plane of a plane formed by the electrode to connect to the electrode at a connecting portion provided on an end peripheral portion of the electrode. The RF cable connects to the electrode substantially in the same plane as the plane formed by the electrode. Voltage acting after the connecting portion becomes symmetric relative to the plane formed by the electrode and the electric line of force also becomes symmetric. Thereby, change of impedance at the connecting portion is reduced, reflection of the radio frequency power at the connecting portion is reduced, incidence of the radio frequency power into the electrode increases and the efficiency of film forming and surface treatment is enhanced.